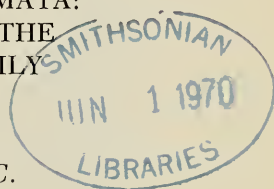


PROCEEDINGS
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BIOLOGICAL SOCIETY OF WASHINGTON

DRACHMASTER BULLISI NEW GENUS AND SPECIES
OF OPHIDIASTERIDAE (ECHINODERMATA:
ASTEROIDEA), WITH A KEY TO THE
CARIBBEAN SPECIES OF THE FAMILY

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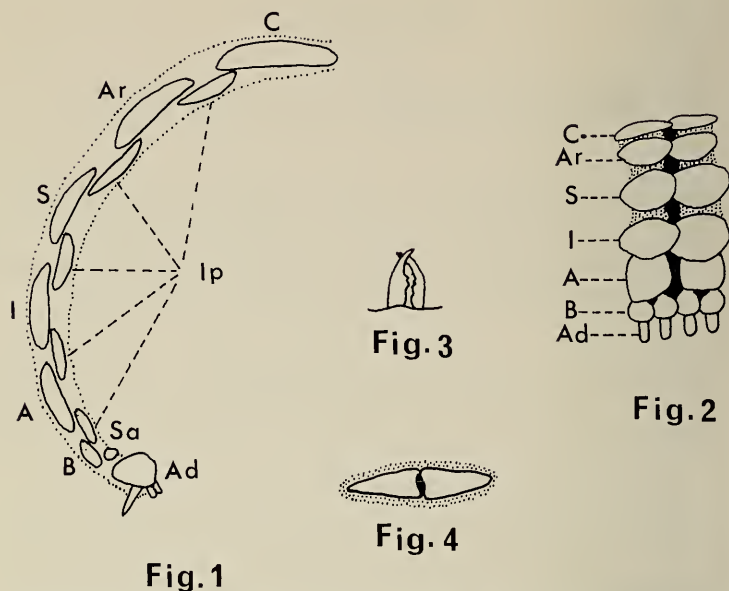


Two specimens of a small starfish collected by the Bureau of Commercial Fisheries vessel M/V *Oregon*, one off Trinidad and the other off Martinique, represent another genus of the large family Ophidiasteridae. Of the 23 recognized genera in this family, at least six are represented in the Caribbean and the Gulf of Mexico. Eight or more species of Ophidiasteridae have been reported from this same area; however, in the course of a study of a very large collection of asteroids from this region, only six of the species (in addition to the new one) have been found. This essentially tropical family is principally a shallow water one, only three species in the family occurring at depths below 200 fathoms. Indeed, most species are found in very shallow water and they are usually reef-dwelling or reef-associated. They are remarkably abundant in the Indo-Pacific region and especially in the vicinity of Torres Strait. H. L. Clark (1921) has very thoroughly reviewed the family and described several new species from Australia. Two new monotypic genera have been added to the family since that time, one from the Indo-Pacific and one from Florida.

Drachmaster new genus

Arms with internal plates connecting the outer plates in transverse series.

Etymology: Generic name—masculine, from the Greek, drachme, target, and aster, star.

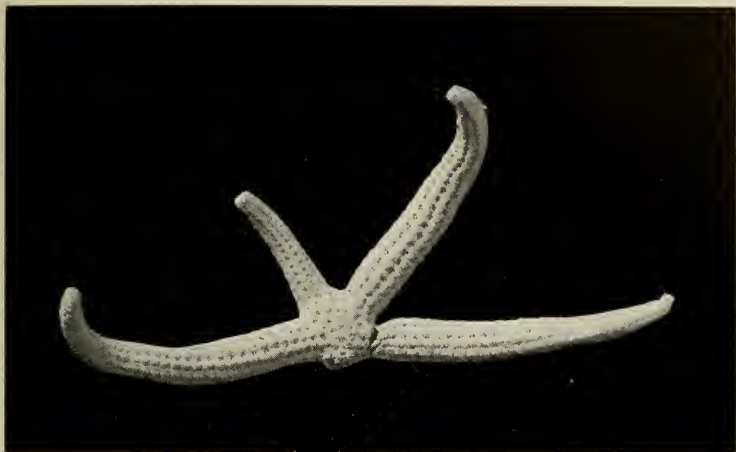


FIGS. 1-4. 1, Cross-section of half a ray, showing arrangement of plates. 2, External view of transverse arrangement of plates. 3, Pedicellaria (erect). 4, Alveolus in which pedicellaria rests. Abbreviations: C = carinal plate; Ar = adradiolateral plate; S = superomarginal; I = inferomarginal; A = first actinolateral; B = second actinolateral; Ad = adambulacral plates; Ip = internal plates.

***Drachmaster bullisi* new species**

Figures 1-6

Disc small, rather flat. Anal pore central, surrounded by a number of enlarged spiniform granules; madreporite irregularly triangular or elliptical, sunken below general disc surface, and covered with deep gyri. Arms long, cylindrical, not much tapered, and terminate bluntly. All plates covered with moderately thick skin closely beset with small squamiform or minutely spinous granules of uniform size (because of this skin covering, it was not possible to determine the exact arrangement of the disc plates, but it seems to be quite like that of *Ophidiaster*). Plates on arms smooth, slightly tumid, in 11 very regular longitudinal rows (exclusive of adambulacral plates), and also in regular transverse rows. Plates in transverse series connected internally by small tumid plates (the principal feature by which *Drachmaster* is distinguished from all other genera of Ophidiasteridae) (Fig. 1). Eight longitudinal rows of conspicuous papular areas, with from one to three papulae per area. Viewed externally, from top of arm to adambulacrals, plates in transverse

**Fig. 5****Fig. 6**

FIGS. 5-6. 5, *Drachmaster bullisi* (Holotype, USNM E11359). Aboral view. 6, Oral view, same specimen.

series are: (1) carinal, (2) adradial, (3) superomarginal, (4) inferomarginal, (5) first actinolateral, and (6) two second actinolaterals, side by side, each corresponding to an adambulacral plate (fig. 2).

Adambulacral armature of two short, blunt, somewhat flattened furrow spines, connected near their bases by skin, and a much longer,

flat, more acute outer spine. Small spines around oral margin of jaw plates similar to and continuous with furrow spines; behind these, on actinal surface of jaw plates, two pairs of large spines, like outer adambulacral spines; distalmost pair accompanied each by a small spinelet between furrow spines and larger outer spine. Internally, a large flange on upper edge of ambulacral plates overlaps upper edge of ambulacral plate proximal to it. Superambulacral plates present.

On smaller specimen, but one pedicellaria, on abactinal surface in one interradial area; on rays, several incipient pedicellariae between adambulacral and inferomarginals. Larger specimen abundantly provided with pedicellariae; one on upper edge of each superomarginal plate. Pedicellariae rare below inferomarginals, but occur frequently on abactinal surface. Valves of pedicellariae slender, elongate, minutely toothed, flattened laterally, and terminate in prominent hyaline hook which crosses hook of opposite valve when pedicellariae are erect (Fig. 3). Alveoli in which pedicellariae rest elongate-diamond-shaped, with raised lips (Fig. 4).

Ocular plates large, tumid; terminal portion of plate covered with large low rounded tubercles.

R/r—6/1. Holotype: R = 33 mm, r = 4.5 mm. Paratype: R = 14 mm, r = 4.5 mm.

The type material is in the U.S. National Museum.

Material examined: Holotype (USNM E11359), "Oregon" Station 5970, 11°13'N, 60°52'W, 34 fms., March 1966 (one arm missing, another regenerating). Paratype (USNM E11360), "Oregon" Station 5923, 15°36'N, 61°15'W, 40 fms., March 1966 (one arm removed for dissection).

Etymology: In honor of Harvey R. Bullis, Jr., Director, Exploratory Fishing and Gear Research Base, Bureau of Commercial Fisheries, Pascagoula, Mississippi.

DISCUSSION

H. L. Clark's (1921) excellent review of the Ophidiasteridae renders unnecessary an extensive discussion of the other genera within this family. His very useful key need not be altered to accommodate *Drachmaster*, as the major character separating this new genus from the other genera in the family is the presence of the internal plates connecting the plates in transverse series.

A KEY TO THE CARIBBEAN SPECIES OF OPHIDIASTERIDAE

1. With internal plates connecting the outer plates in transverse series *Drachmaster bullisi*
Without internal plates 2
2. Complete covering of imbricating scales *Copidaster lymani*
Without covering of imbricating scales 3
3. Abactinal plates in regular longitudinal series 4
Abactinal plates not in regular longitudinal series 7

4. Papular areas regularly present below inferomarginals 5
 Papular areas not present below inferomarginals (isolated papulae
 sometimes present) *Tamaria floridac*
5. Papular areas in eight series 6
 Papular areas in ten series *Hacelia superba*
6. Three rows of spines on adambulacrals *Ophidiaster bayeri*
 Two rows of spines on adambulacrals *Ophidiaster guildingi*
7. Adambulacral armature spiniform, subprismatic; arms triangular
 in cross-section (in adult) *Narcissia trigonaria*
 Adambulacral armature granuliform; arm cylindrical 8
8. Large tumid plates occurring randomly on disc and arms
 *Linckia nodosa*
 No tumid plates *Linckia guildingi*

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